



Form PTO-1449

U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket No.  
P23903Serial No.  
10/626,671

INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT  
(Use several sheets if necessary)

Applicant  
Sabine GENIOT etFiling Date  
July 25, 2003Group  
1643

1652

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
CAH	42	6 0 6 3 9 1 5	05/16/2000	HANSEN et al.	536	114
	43	6 0 3 7 1 5 9	03/14/2000	UCHIMURA et al.	435	143
	44	6 0 1 3 5 0 4	01/11/2000	YU et al.	435	232
	45	6 0 0 1 6 2 7	12/14/1999	DÖRREICH et al.	435	260
CAH	46	5 9 3 9 2 8 9	08/17/1999	ERTESVÄG et al.	435	22

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
470	02/10/2000	W. I. P. O.			
48	04/10/1998	FRANCE			
49	04/10/1998	FRANCE			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CAH	1	ARMISEN et al., "Production, Properties and Uses of Agar", <u>Production and Utilization of Products from Commercial Seaweeds</u> , FAO Fisheries Technical Paper, 288, pp. 1-57 (1987).
	2	STANLEY, "Production, Properties and Uses of Carrageenan", <u>Production and Utilization of Products from Commercial Seaweeds</u> , FAO Fisheries Technical Paper, 288, pp. 116-146 (1987).
	3	THERKELSEN, "Carrageenan", <u>Industrial Gums: Polysaccharides and their Derivatives</u> , 3rd ed., pp. 145-180, (1993).
	4	DeRUITER et al., "Carrageenan Biotechnology", <u>Trends in Food Science &amp; Technology</u> , Vol. 8, pp. 389-395 (1997).
	5	HOFFMANN et al., "Effect of Isolation Procedures on the Molecular Composition and Physical Properties of <i>Eucheuma Cottonii</i> Carrageenan", <u>Food Hydrocolloids</u> , 9, pp. 281-289 (1995).
	6	VIEBKE et al., "Characterization of Kappa- and Iota-Carrageenan Coils and Helices by MALLS/GPC", <u>Carbohydr. Polym.</u> , Vol. 27, pp. 145-154 (1995).
CAH	7	Le QUESTEL et al., "Computer Modelling of Sulfated Carbohydrates: Applications to Carrageenans", <u>Int. J. Biol. Macromol.</u> , Vol. 17, pp. 161-174 (1995).

EXAMINER

CAH

DATE CONSIDERED

9/13/05

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P23903	Serial No. 10/626,671	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicant Sabine GENICOT et al.		
				Filing Date July 25, 2003	Group 465/1652	
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
C/	8	REES, "Enzymic Synthesis of 3:6-Anhydro-L-Galactose within Porphyrin from L-Galactose 6-Sulphate Units", <u>Biochem. J.</u> , 81, pp. 347-352 (1961).				
	9	REES, "Enzymatic Desulphation of Porphyrin", <u>Biochem. J.</u> , 80, pp. 449-453 (1961).				
	10	WONG et al., "Sulfohydrolase Activity and Carrageenan Biosynthesis in <i>Chondrus crispus</i> (Rhodophyceae)", <u>Plant Physiology</u> , Vol. 61, pp. 663-666 (1978).				
	11	ZINOUN et al., "Evidence of Sulfohydrolase Activity in the Red Alga <i>Calliblepharis jubata</i> ", <u>Botanica Marina</u> , Vol. 40, pp. 49-53 (1997).				
	12	LAWSON et al., "An Enzyme for the Metabolic Control of Polysaccharide Conformation and Function", <u>Nature</u> , Vol. 227, pp. 392-93 (July 25, 1970).				
	13	CRAIGIE et al., "Carrageenan Biosynthesis", <u>Proc. Int. Seaweed Symp.</u> , pp. 369-377 (1979).				
	14	SELBY et al., "Agar", <u>Industrial Gums: Polysaccharides and their Derivatives</u> , 3rd ed., pp. 87-103 (1993).				
	15	JOL et al., "A Novel High-Performance Anion-Exchange Chromatographic Method for the Analysis of Carrageenans and Agars Containing 3,6-Anhydrogalactose", <u>Analytical Biochemistry</u> , 268, pp. 213-222 (1999).				
	16	MERRIL et al., "Ultrasensitive Stain for Proteins on Polyacrylamide Gels Shows Regional Variation in Cerebrospinal Fluid Proteins", <u>Science</u> , 211, pp. 1437-1438 (1981).				
	17	LAEMMLI, <u>Nature</u> , 227, pp. 680-685 (1970).				
	18	APT et al., "The Gene Family Encoding the Fucoxanthin Chlorophyll Proteins from the Brown Alga <i>Macrocystis pyrifera</i> ", <u>Mol. Gen. Genet.</u> , 246, pp. 455-464 (1995).				
	19	VALLON et al., "cDNA Sequence of M(Alpha), the Catalytic Subunit of the <i>Chlamydomonas reinhardtii</i> L-Amino Acid Oxidase (Accession No. <u>U78797</u> ): a New Sequence Motif Shared by a Wide Variety of Flavoproteins", <u>Plant Physiol.</u> , 115, pp. 1729-1731 (1997).				
	20	POTIN et al., "Purification and Characterization of a New $\kappa$ -Carrageenase from a Marine <i>Cytophaga</i> -like Bacterium", <u>Eur. J. Biochem.</u> , 201, pp. 241-247 (1991).				
	C/	21	KIDBY et al., "A Convenient Ferricyanide Estimation of Reducing Sugars in the Nanomole Range", <u>Analytical Biochemistry</u> , 55, pp. 321-325 (1973).			
	EXAMINER		DATE CONSIDERED 9/13/05			
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.						



Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. P23903	Serial No. 10/626,671
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant Sabine GENICOT et al.	
		Filing Date July 25, 2003	Group 1623 1652

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

2	2	KNUTSEN et al., "The Use of Neocarrabiose Oligosaccharides with Different Length and Sulphate Substitution as Model Compounds for <sup>1</sup> H-NMR Spectroscopy", <u>Carbohydrate Research</u> , 229, pp. 233-244 (1992).
2	3	FALSHAW et al., "Structural Analysis of Carrageenans from Burmese and Thai Samples of <i>Cantenella nipae</i> Zanardini", <u>Carbohydrate Research</u> , 285, pp. 81-98 (1996).
2	4	STORTZ et al., "High-Field NMR Spectroscopy of Cystocarpic and Tetrasporic Carrageenans from <i>Iridaea undulosa</i> ", <u>Carbohydrate Research</u> , 261, pp. 317-326 (1994).
2	5	HEMMINGSON et al., "Biosynthesis of Agar Polysaccharides in <i>Gracilaria chilensis</i> Bird, McLachlan et Oliveira", <u>Carbohydrate Research</u> , 287, pp. 101-115 (1996).
2	6	HEMMINGSON et al., "In Vivo Conversion of 6-O-sulfo-L-galactopyranosyl Residues into 3,6-anhydro-L-galactopyranosyl Residues in <i>Gracilaria chilensis</i> Bird, McLachlan et Oliveira", <u>Carbohydrate Research</u> , 296, pp. 285-292 (1996).
2	7	PEAT et al., "Carbohydrase and Sulphatase Activities of <i>Porphyra umbilicalis</i> ", <u>Biochem. J.</u> , 79, pp. 7-12 (1961).
2	8	"Carrageenan, General Description" (Product Literature of Hercules Incorporated), pp. 1-20 (February 1996).
2	9	BRADFORD, "A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding", <u>Anal. Biochem.</u> , 72, pp. 248-254 (1976).
3	0	KNUTSEN et al., "Characterisation of Water-Extractable Polysaccharides from Norwegian <i>Furcellaria Lumbricalis</i> (Huds.) Lamour. (Gigartinales, Rhodophyceae) by IR and NMR Spectroscopy", <u>Bot. Mar.</u> , 30, pp. 497-505 (1987).
3	1	CRAIGIE et al., "Carrageenans and Agars", <u>Handbook of Phycological Methods. Biochemical and Physiological Methods</u> , pp. 109-131 (1978).
3	2	FALSHAW et al., "The Backbone of the Sulfated Galactan from <i>Plocamium costatum</i> (C. Agardh) Hook. f. et Harv. (Plocamiaceae, Rhodophyta)", <u>Bot. Mar.</u> , 42, pp. 431-435 (1999).
3	3	USOV et al., "Polysaccharides of Algae. XXXIV: Detection of Iota-Carrageenan in <i>Phyllophora brodiaei</i> (Turn.) J. Ag. (Rhodophyta) Using <sup>13</sup> C-NMR Spectroscopy", <u>Botanica Marina</u> , 28, pp. 367-73 (1985).
3	4	RENN, "Biotechnology and the Red Seaweed Polysaccharide Industry: Status, Needs, and Prospects", <u>Tibtech</u> , 15, 9-14 (1997).
3	5	REES, "Structure, Conformation, and Mechanism in the Formation of Polysaccharide Gels and Networks", <u>Adv. Carbohydr. Chem. Biochem.</u> , 24, pp. 267-332 (1969).

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449

U.S. Department of Commerce  
Patent and Trademark OfficeAtty. Docket No.  
P23903Serial No.  
10/626,671INFORMATION DISCLOSURE STATEMENT  
BY APPLICANT  
(Use several sheets if necessary)Applicant  
Sabine GENICOT et al.Filing Date  
July 25, 2003Group  
1643

1652

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

- |   |   |   |
|---|---|---|
| 3 | 6 | GRASDALEN et al., "Iodide-Specific Formation of $\kappa$ -Carrageenan Single Helices. $^{127}\text{I}$ NMR Spectroscopic Evidence for Selective Site Binding of Iodide Anions in the Ordered Conformation", <i>Macromolecules</i> , 14, 1842-1845 (1981). |
| 3 | 7 | ROCHAS et al., "Mechanism of Gel Formation in $\kappa$ -Carrageenan", <i>Biopolymers</i> , 23, pp. 735-745 (1984).  |
| 3 | 8 | LA CLAIRE II et al., "An Autoradiographic and Histochemical Localization of Sulfated Polysaccharides in <i>Eucheuma nudum</i> (Rhodophyta)", <i>J. Phycol.</i> , 12, pp. 368-375 (1976).  |
| 3 | 9 | CRAIGIE et al., "Carrageenan Biosynthesis", <i>Proc. Intern. Seaweed Symposium</i> , 9, pp. 369-377 (1979).   |

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. P23903	Serial No. 10/626,671
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)		Applicant Sabine GENICOT et al.	
		Filing Date July 25, 2003	Group 1643 <b>1652</b>

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<b>CA</b>	50 5 5 8 5 2 5 5	12/1996	TSUKADA et al.	435	196	
<b>CA</b>	51 5 9 3 2 2 1 1	08/1999	WILSON et al.	434	846	
<b>CA</b>	52 6 6 2 0 6 0 4	09/16/03	GENICOT et al.	435	186	

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<b>CA</b>	4 0	McLEAN et al., "Neocarratetraose 4-O-Monosulphate $\beta$ -Hydrolase from <i>Pseudomonas carrageenovora</i> ", <u>Eur. J. Biochem.</u> , 113, pp. 447-456 (1981).
	4 1	SHAW et al., "Substrate Specificity and Other Properties of the Inducible S3 Secondary Alkylsulphohydrolase Purified from the Detergent-Degrading Bacterium <i>Pseudomonas</i> C12B", <u>Biochem. J.</u> , 187, pp. 181-196 (1980).

EXAMINER <b>CA</b>	DATE CONSIDERED <b>9/13/05</b>
--------------------	--------------------------------

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No. P23903		Serial No. 10/626,671							
<div style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)</div>				Applicant S. GENICOT et al.									
				Filing Date July 25, 2003		Group <u>Unknown</u> <b>1652</b>							
<b>U.S. PATENT DOCUMENTS</b>													
EXAMINER INITIAL		DOCUMENT NUMBER		DATE		NAME		CLASS		SUBCLASS		FILING DATE IF APPROPRIATE	
<b>FOREIGN PATENT DOCUMENTS</b>													
		DOCUMENT NUMBER		DATE		COUNTRY		CLASS		SUBCLASS		TRANSLATION YES NO	
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>													
<i>CA</i>		<i>53</i>		<i>Duncan SHAW et al., Substrate Specificity and other Properties of the Inducible S3 Secondary Alkylsulphohydrolase Purified from the Detergent-degrading Bacterium Pseudomonas C12B, Biochem J., Vol. 187, pp. 181-196 (1980).</i>									
<i>CA</i>		<i>54</i>		<i>D. A. REES, Biogenesis of 3:6 - Anhydro-L-Galactose, Proceedings of the Biochemical Society, 101st Meeting (1960).</i>									
<i>CA</i>		<i>55</i>		<i>Sabine GENICOT et al., Purification and Cloning of Polysaccharide-Modifying Enzymes from Marine Algae, Polymerix 2000, pp. 157-163 (2000).</i>									
EXAMINER				<i>C. P. Lash</i>									
				DATE CONSIDERED <i>9/13/05</i>									
<small>*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</small>													